

## **ABSTRACT OF THE DISCLOSURE**

A microfluidic device which comprises a microelectronic chip that is remotely coupled to external power and data sources. The device includes a body structure, at least one microscale channel within the structure, a port for introducing fluid into the channel, a microelectronic chip internal to the structure, and a power source external to the structure coupled remotely to said structure by non-contact means.

Various structures are described which embody the invention.